



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,246	06/26/2002	Colin John Hunter	2145-133	4561

6449 7590 06/16/2003

ROTHWELL, FIGG, ERNST & MANBECK, P.C.
1425 K STREET, N.W.
SUITE 800
WASHINGTON, DC 20005

EXAMINER

ANDREWS, MELVYN J

ART UNIT

PAPER NUMBER

1742

DATE MAILED: 06/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/070,246

Applicant(s)

HUNTER ET AL.

Examiner

Melvyn J. Andrews

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-22, 24-26 and 32 is/are pending in the application.
- 4a) Of the above claim(s) 27-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 18-22, 24-26 and 32 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

The proposed amendment filed December 20, 2002 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

Thiobacillus ferrooxidans on pages 8,9, 10 and 16.

Applicant is required to cancel the new matter in the reply to this Office Action.

Election/Restrictions

Applicant's election with traverse of Group I, Claims 18-22, 24-26 and 32 in Paper No. 12 is acknowledged.

Group II includes Claims 27-31. Claim 31 is drawn to bacterial culture.

The traversal is on the ground(s) that are set forth in Paper No.12. This is not found persuasive because the patent to Kohr et al (US 6,110,253) is evidence that Claim 18 did not provide a contribution over the art which is confirmed the amendment to Claim 18. Amended Claim 18 is rejected and does not provide a contribution over the art as set forth below. The requirement is still deemed proper and is therefore made FINAL.

This application contains claims 27-31 drawn to an invention nonelected with traverse in Paper No. 12. A complete reply to the final rejection must include cancelation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 18 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The expression “not indigenous to that ore or concentrate” is new matter.

Claims 25 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The bacterial culture *Thiobacillus ferrooxidans* is new matter.

Claim 21 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a process for the bacterial oxidation of sulphide ores namely chalcopyrite with a mixed bacterial culture deposited at the Australian Government Analytical Laboratories under Accession No.NM99/07541 does not reasonably provide enablement for a bacterial culture (as in Claim 18) to biooxidize chalcopyrite . The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate

Art Unit: 1742

in scope with these claims since the bacterial cultures presently used are unable to produce commercially acceptable results for chalcopyrite as admitted by applicants (Specification, page 2 lines 7-10).

Claims 18 -22, 24-26 and 32 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The mixed bacterial culture of the present invention deposited at the Australian Government Analytical Laboratories under Accession No. NM99/07541 is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976)..

The invention appears to employ novel microorganisms. Since the microorganism is essential to the claimed invention it must be obtainable by a repeatable method set forth in the specification or otherwise be readily available to the public. If the microorganism is not so obtainable or available, the requirements of 35 USC 112 may be satisfied by a deposit of the microorganism. The specification does not disclose a repeatable process to obtain the organism and it is not apparent if the microorganism is readily available to the public. It is noted that Applicants have deposited the organism; however, the conditions of the deposit remain unclear. If the deposit is made under the terms of the Budapest Treaty, then an affidavit or declaration by applicants, or a statement by an attorney of record over his or her signature and registration number, stating that the specific strain has been deposited under the Budapest Treaty and that the strain will be irrevocably and without restriction or condition released to the public upon the issuance of a patent, would satisfy the deposit requirement made herein.

If the deposit has not been made under the Budapest Treaty, then in order to certify that the deposit meets the criteria set forth in 37 C.F.R. 1.801-1.809, applicants may provide assurance of compliance by an affidavit or declaration, or by a statement by an attorney of record over his or her signature and registration number, showing that

- (a) during the pendency of this application, access to the invention will be afforded to the Commissioner upon request;
- (b) all restrictions upon availability to the public will be irrevocably removed upon granting of the patent;
- (c) the deposit will be maintained in a public depository for a period of 30 years or 5 years after the last request or for the effective life of the patent, whichever is longer;
- (d) a test of the viability of the biological material at the time of deposit (see 37 CFR 1.807); and,

(e) the deposit will be replaced if it should ever become inviable.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 18-22, 24-26 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schaffner et al (WO 98/51827) in view of Hackl et al (US 4,888,293).

Schaffner et al discloses a process for bacterial oxidation of sulphide ores wherein the biooxidation occurs with one or more sulfide-digesting microorganism species (page 10, lines 20-22) at a temperature of 30-45° (page 19, 3-6), the sulphide-digesting-microorganism being acclimated (page 10, lines 13-27) but does not explicitly disclose the step of adapting mixed bacteria but Hackl et al discloses adapting bacteria a mixed culture to treat arsenopyrite (col.16, lines 37 to 60) it would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt a mixed culture as taught by Hackl et al for use in the Schaffner et al process which also treats arsenopyrite (page 1, line 21). Regarding Claim 19, Schaffner et al disclose leaching in a tank or heap (page 9, line 30). Regarding Claim 20 Schaffner et al disclose the recovery of gold, silver, platinum and other base metal values (page 8, lines 14-17). Regarding Claim 21 Schaffner et al disclose chalcopyrite (page 8, line 19). Regarding Claim 22, Schaffner discloses 45° C.

Claims 24 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schaffner et al (WO 98/51827) in view of Hackl et al (US 4,888,293) as applied to claim 18 above, and further in view of Hutchins et al (US 4,279,788) or Kohr et al (US 6,110,253). Schaffner et al discloses using crushed ore (page 29, line 2) but does not disclose a specific particle size as claimed but Hutchins discloses ore less than 200 mesh (75 micron aperture) which abuts the claimed crush size of greater than P_{80} 75 μm and Kohr et al disclose ore obtained by crushing the chalcopyrite ore to a size less than 2.5 cm (col.9, lines 18-30) it would have been obvious to one of ordinary skill in the art to optimize the particle size of the ore which is a result effective variable since Kohr et al teaches that removing the "minus 3.0 mm fraction" is beneficial because if too many fines are present in the heap they can limit the flow of liquid and air within the heap Ex parte Boesch , 205 USPQ 215.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schaffner et al (WO 98/51827) in view of Hackl et al (US 4,888,293). as applied to claim 18 above, and further in view of Kohr et al (US 6,110,253). Schaffner et al discloses the simultaneous use of multiple microorganism species including *Thiobacillus ferrooxidans* (page 27, line 15 to page 28, line16) but does not disclose *Thiobacillus caldus* and *Sulfobacillus thermosulfidooxidans* but Kohr et al discloses that all these microorganisms are suitable (col.14, lines 55 to 65) it would have been obvious to one of ordinary skill in art at the time the invention was made to use any or all of *Thiobacillus ferrooxidans* , *Thiobacillus caldus* and *Sulfobacillus thermosulfidooxidans* since all are suitable to biooxidize sulfide minerals.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvyn J. Andrews whose telephone number is 703-308-3739. The examiner can normally be reached on 8:00A.M. to 4:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V King can be reached on 703-308-1146. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Art Unit: 1742

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.


MELVYN ANDREWS
PRIMARY EXAMINER

mja
June 12, 2003